

AMENDMENTS TO THE CLAIMS

1. (Original) A method for correcting lightness of an image using a multiscale retinex wherein lightness of a subject pixel of an original image is corrected using a convolution operation of a surround function and surround pixels with respect to the subject pixel of the original image, and the convolution operation is performed over a plurality of scales; and

the surround function has a simplified mode such that a value of the surround function is changed in a stepwise way along two axes orthogonal to each other.

2. (Original) A method according to claim 1, wherein a sum of image information on the surround pixels positioned at the same distance from the subject pixel and the surround function based on a one-dimensional scale size, the value of the surround function changing in a stepwise way, are subjected to the convolution operation, and a result of the convolution operation is used as a result of another convolution operation.

3. (Original) A method according to claim 1, wherein the image information on the surround pixels are read as horizontal and vertical vector components changing along the two axes in a stepwise way.

4. (Original) A method according to claim 1, wherein a scala coefficient K of the surround function used in the convolution operation is calculated based on data dependency on the scala coefficient K previously calculated.

5. (Original) A method according to claim 1, wherein the number of the surround pixels to be read out is decreased to reduce the calculation amount of sum-of-products operation in the convolution operation.

6. (Original) A method according to claim 1, wherein only one subject pixel is selected with respect to a pixel group consisting of a number of pixels; the convolution operation is performed for the subject pixel; the result of the convolution operation is used as a result of the convolution operation for the other pixels in the pixel group.

7. (Currently Amended) A method according to claim 1, wherein the multiscale retinex includes a log operation ~~in the multiscale retinex is~~ approximately calculated based on a predetermined graph.

8. (New) A multiscale retinex method for correcting image lightness comprising the steps of:

selecting a first subject pixel from a plurality of pixels;  
identifying a first plurality of surround pixels related to  
the first subject pixel; and

correcting the lightness of the first subject pixel using a  
convolution operation of a surround function and the first  
plurality of surround pixels over a plurality of scales;

wherein the surround function has a value which changes in  
a stepwise manner along two orthogonal axes.

9. (New) The method of claim 8 including the additional  
step of using the result of the convolution operation of the  
first subject pixel and the first plurality of surround pixels  
as the result of a convolution operation of a second subject  
pixel and a second plurality of surround pixels.

10. (New) The method of claim 8 including the additional  
step of reading image information on the first plurality of  
surround pixels as horizontal vector components changing along  
the two orthogonal axes in a stepwise way.

11. (New) The method of claim 1 wherein the surround  
function used in the convolution operation of the first subject  
pixel includes a first scala coefficient and including the  
additional step of using the first scala coefficient as a second

scala coefficient for the surround function used in the convolution operation of a second subject pixel.

12. (New) The method of claim 8 including the additional step of selecting a first group of subject pixels and using a result of the convolution function for the first subject pixel as the result of the convolution operation for each pixel in the first group of subject pixels.

13. (New) A multiscale retinex method for correcting image lightness comprising the steps of:

selecting a subject pixel from a plurality of pixels;

identifying a first plurality of surround pixels related to the subject pixel;

identifying a second plurality of surround pixels related to the subject pixel; and

correcting the lightness of the subject pixel using one-dimensional convolution operations of a surround function and a selected one of the first plurality of surround pixels over a plurality of scales and a selected one of the second plurality of surround pixels over the plurality of scales.